

8.6 AC Conducted Emissions

Test Requirements and limit, §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

| | Conducted Limit (dBuV) | | | | |
|-----------------------|------------------------|------------|--|--|--|
| Frequency Range (MHz) | Quasi-Peak | Average | | | |
| 0.15 ~ 0.5 | 66 to 56 * | 56 to 46 * | | | |
| 0.5 ~ 5 | 56 | 46 | | | |
| 5 ~ 30 | 60 | 50 | | | |

* Decreases with the logarithm of the frequency

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs for the actual connections between EUT and support equipment.

Test Procedure

Conducted emissions from the EUT were measured according to the ANSI C63.10-2013.

1. The test procedure is performed in a 6.5 m \times 3.5 m \times 3.5 m (L \times W \times H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) \times 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.

2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.

3. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.

4. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

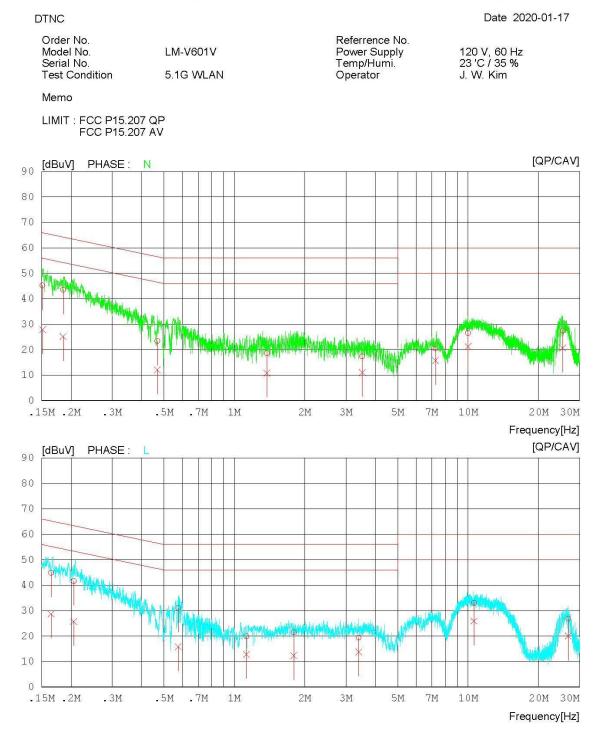
Test Results: Comply

Note 1: See next pages for actual measured spectrum plots and data for worst case result.

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 1 & 802.11a & 5180 MHz

Results of Conducted Emission



AC Line Conducted Emissions (Data List)

Test Mode: U-NII 1 & 802.11a & 5180 MHz

Results of Conducted Emission

Date 2020-01-17

| Order No. | | Referrence No. | |
|----------------|-----------|----------------|--------------|
| Model No. | LM-V601V | Power Supply | 120 V, 60 Hz |
| Serial No. | | Temp/Humi. | 23 'C / 35 % |
| Test Condition | 5.1G WLAN | Operator | J. W. Kim |

Memo

DTNC

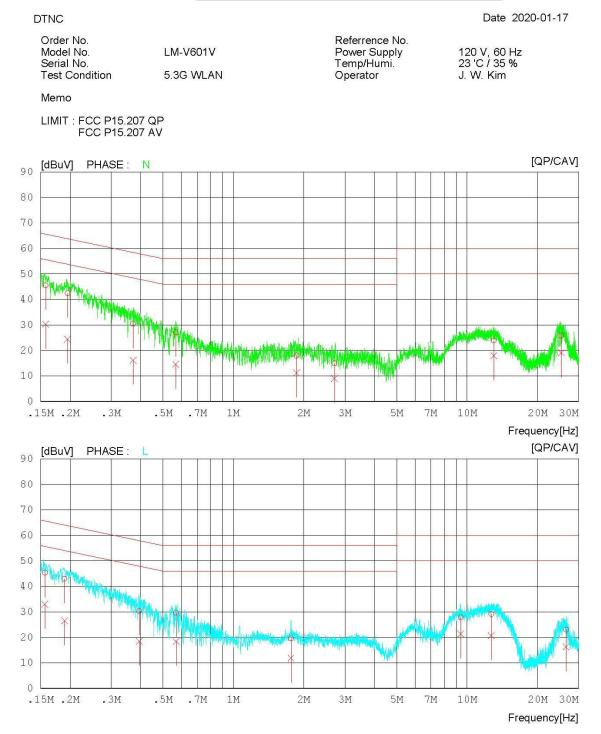
LIMIT : FCC P15.207 QP FCC P15.207 AV

| NC |) FREQ | READING QP CAV [dBuV][dBuV] | C.FACTOR | RESULT QP CAV [dBuV][dBuV] | QP | MIT CAV '] [dBuV] | MARGIN QP CAV [dBuV][dBuV | PHASE |
|----|----------|-----------------------------------|----------|----------------------------------|---------|-------------------------|---------------------------------|-------|
| | | [αδαν] [αδαν | ι [αδ] | [αδυν][αδυν |] [αραν | ј[авиу | Ι [αδαν][αδαν | |
| 1 | 0.15138 | 35.30 18.00 | 9.94 | 45.24 27.94 | 65.92 | 55.92 | 20.6827.98 | Ν |
| 2 | 0.18501 | 33.60 15.18 | 9.94 | 43.54 25.12 | 64.26 | 54.26 | 20.7229.14 | Ν |
| 3 | 0.46870 | 13.44 2.17 | 9.95 | 23.3912.12 | 56.54 | 46.54 | 33.15 34.42 | Ν |
| 4 | 1.37889 | 8.60 0.90 | 9.99 | 18.5910.89 | 56.00 | 46.00 | 37.4135.11 | Ν |
| 5 | 3.52333 | 7.26 0.97 | 10.10 | 17.3611.07 | 56.00 | 46.00 | 38.64 34.93 | Ν |
| 6 | 7.25467 | 10.21 5.54 | 10.23 | 20.44 15.77 | 60.00 | 50.00 | 39.5634.23 | Ν |
| 7 | 9.99347 | 16.30 11.00 | 10.34 | 26.64 21.34 | 60.00 | 50.00 | 33.3628.66 | Ν |
| 8 | 25.39677 | 16.8910.06 | 10.66 | 27.5520.72 | 60.00 | 50.00 | 32.45 29.28 | N |
| 9 | 0.16450 | 34.9218.77 | 9.94 | 44.8628.71 | 65.23 | 55.23 | 20.3726.52 | L |
| 10 | 0.20589 | 31.62 15.75 | 9.94 | 41.5625.69 | 63.37 | 53.37 | 21.81 27.68 | L |
| 11 | 0.57580 | 21.02 5.85 | 9.95 | 30.9715.80 | 56.00 | 46.00 | 25.0330.20 | L |
| 12 | 1.12668 | 9.91 2.81 | 9.97 | 19.8812.78 | 56.00 | 46.00 | 36.12 33.22 | L |
| 13 | 1.79444 | 11.36 2.27 | 10.02 | 21.38 12.29 | 56.00 | 46.00 | 34.6233.71 | L |
| 14 | 3.40695 | 9.34 3.62 | 10.08 | 19.4213.70 | 56.00 | 46.00 | 36.58 32.30 | L |
| 15 | 10.59525 | 22.68 15.52 | 10.35 | 33.0325.87 | 60.00 | 50.00 | 26.9724.13 | L |
| 16 | 26.84084 | 16.10 9.33 | 10.66 | 26.7619.99 | 60.00 | 50.00 | 33.24 30.01 | L |

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 2A & 802.11a & 5320 MHz

Results of Conducted Emission



AC Line Conducted Emissions (Data List)

Test Mode: U-NII 2A & 802.11a & 5320 MHz

Results of Conducted Emission

Date 2020-01-17

| Order No. | | Referrence No. | |
|----------------|-----------|----------------|--------------|
| Model No. | LM-V601V | Power Supply | 120 V, 60 Hz |
| Serial No. | | Temp/Humi. | 23 'C / 35 % |
| Test Condition | 5.3G WLAN | Operator | J. W. Kim |

Memo

DTNC

LIMIT : FCC P15.207 QP FCC P15.207 AV

| NC |) FREQ | READING QP CAV [dBuV] [dBuV | C.FACTOR] [dB] | RESULT QP CAV [dBuV][dBuV | QP | MIT CAV 7] [dBuV] | MARGIN QP CAV [dBuV][dBuV | PHASE |
|----|----------|-----------------------------------|--------------------|---------------------------------|-------|-------------------------|---------------------------------|-------|
| 1 | 0.15750 | 35.54 20.38 | 9.94 | 45.4830.32 | 65.59 | 55.59 | 20.11 25.27 | N |
| 2 | 0.19550 | 32.4614.45 | 9.94 | 42.4024.39 | 63.80 | 53.80 | 21.40 29.41 | Ν |
| 3 | 0.37309 | 20.45 6.19 | 9.95 | 30.4016.14 | 58.43 | 48.43 | 28.03 32.29 | Ν |
| 4 | 0.56731 | 17.12 4.68 | 9.95 | 27.0714.63 | 56.00 | 46.00 | 28.93 31.37 | Ν |
| 5 | 1.86319 | 7.89 1.14 | 10.03 | 17.9211.17 | 56.00 | 46.00 | 38.0834.83 | Ν |
| 6 | 2.70400 | 4.91-1.00 | 10.05 | 14.96 9.05 | 56.00 | 46.00 | 41.04 36.95 | Ν |
| 7 | 12.99257 | 13.39 7.44 | 10.43 | 23.8217.87 | 60.00 | 50.00 | 36.18 32.13 | Ν |
| 8 | 25.28302 | 15.12 8.39 | 10.66 | 25.7819.05 | 60.00 | 50.00 | 34.22 30.95 | Ν |
| 9 | 0.15650 | 35.34 23.00 | 9.94 | 45.2832.94 | 65.65 | 55.65 | 20.37 22.71 | L |
| 10 | 0.18961 | 33.0216.58 | 9.94 | 42.9626.52 | 64.05 | 54.05 | 21.09 27.53 | L |
| 11 | 0.39655 | 20.36 8.47 | 9.95 | 30.3118.42 | 57.93 | 47.93 | 27.62 29.51 | L |
| 12 | 0.56979 | 19.65 8.42 | 9.95 | 29.6018.37 | 56.00 | 46.00 | 26.40 27.63 | L |
| 13 | 1.76353 | 9.51 1.81 | 10.02 | 19.5311.83 | 56.00 | 46.00 | 36.4734.17 | L |
| 14 | 9.38608 | 17.4811.09 | 10.32 | 27.80 21.41 | 60.00 | 50.00 | 32.20 28.59 | L |
| 15 | 12.67985 | 18.64 10.21 | 10.41 | 29.05 20.62 | 60.00 | 50.00 | 30.9529.38 | L |
| 16 | 26.50059 | 12.39 5.57 | 10.66 | 23.0516.23 | 60.00 | 50.00 | 36.9533.77 | L |

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 2C & 802.11a & 5500 MHz

Results of Conducted Emission

Date 2020-01-17 DTNC Order No. Referrence No. LM-V601V 120 V, 60 Hz 23 'C / 35 % Model No. Power Supply Serial No. Temp/Humi. Test Condition 5.5G WLAN Operator J. W. Kim Memo LIMIT : FCC P15.207 QP FCC P15.207 AV [QP/CAV] [dBuV] PHASE: N 90 80 70 60 50 Mid 40 Martin 30 20 10 0 .15M .2M .7M .3M .5M 1M 2M ЗM 5M 7M 10M 20M 30M Frequency[Hz] [QP/CAV] [dBuV] PHASE : 90 80 70 60 50 0 40 1 MARIO 30 20 10 0 20M 30M .15M .2M .3M .5M .7M 1M 2M ЗM 5M 7M 10M Frequency[Hz]

AC Line Conducted Emissions (Data List)

Test Mode: U-NII 2C & 802.11a & 5500 MHz

Results of Conducted Emission

Date 2020-01-17

| Order No. | | Referrence No. | |
|----------------|-----------|----------------|--------------|
| Model No. | LM-V601V | Power Supply | 120 V, 60 Hz |
| Serial No. | | Temp/Humi. | 23 'C / 35 % |
| Test Condition | 5.5G WLAN | Operator | J. W. Kim |

Memo

DTNC

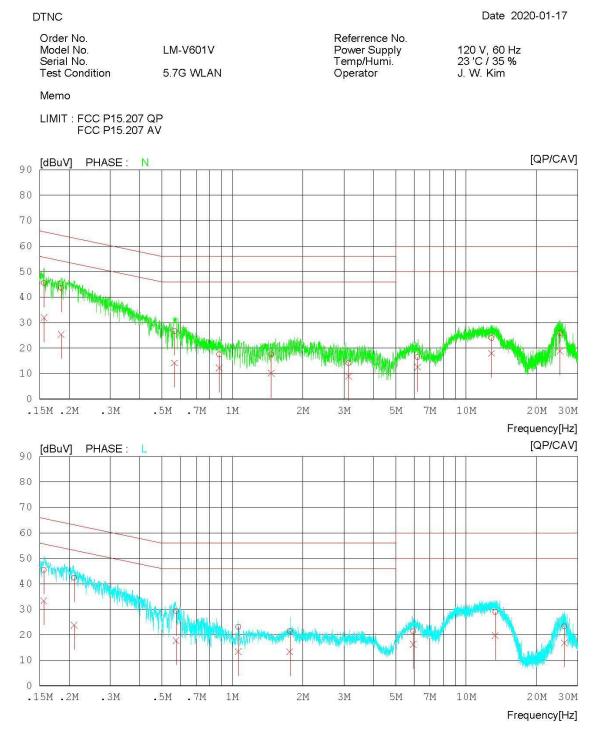
LIMIT : FCC P15.207 QP FCC P15.207 AV

| NC | FREQ | READING QP CA | | R RESULT QP CAV | LI QP | MIT CAV | MARGIN QP CAV | PHASE |
|----|----------|------------------|----------|--------------------|----------|------------|------------------|-------|
| | [MHz] | [dBuV] [dB | | [dBuV] [dBuV] | |] [dBuV] | ~ | |
| 1 | 0.15671 | 35.60 21. | 19 9.94 | 45.54 31.13 | 65.64 | 55.64 | 20.10 24.51 | Ν |
| 2 | 0.19165 | 33.0916. | 45 9.94 | 43.0326.39 | 63.96 | 53.96 | 20.93 27.57 | Ν |
| 3 | 0.57250 | 19.40 4. | 27 9.95 | 29.3514.22 | 56.00 | 46.00 | 26.6531.78 | Ν |
| 4 | 1.40519 | 6.88 0. | 03 9.99 | 16.8710.02 | 56.00 | 46.00 | 39.13 35.98 | Ν |
| 5 | 1.93803 | 7.70 2. | 16 10.03 | 17.7312.19 | 56.00 | 46.00 | 38.27 33.81 | Ν |
| 6 | 6.18865 | 6.44 2. | 44 10.20 | 16.64 12.64 | 60.00 | 50.00 | 43.3637.36 | Ν |
| 7 | 12.81519 | 13.44 7. | 40 10.43 | 23.8717.83 | 60.00 | 50.00 | 36.13 32.17 | Ν |
| 8 | 25.35233 | 15.50 9. | 02 10.66 | 26.1619.68 | 60.00 | 50.00 | 33.84 30.32 | Ν |
| 9 | 0.19947 | 32.2714. | 20 9.94 | 42.2124.14 | 63.63 | 53.63 | 21.42 29.49 | L |
| 10 | 0.33715 | 24.03 9. | 78 9.94 | 33.97 19.72 | 59.27 | 49.27 | 25.30 29.55 | L |
| 11 | 0.57050 | 19.90 8. | 03 9.95 | 29.8517.98 | 56.00 | 46.00 | 26.15 28.02 | L |
| 12 | 1.83034 | 8.92 1. | 57 10.02 | 18.94 11.59 | 56.00 | 46.00 | 37.0634.41 | L |
| 13 | 2.13643 | 6.76 1. | 54 10.03 | 16.7911.57 | 56.00 | 46.00 | 39.2134.43 | L |
| 14 | 9.39460 | 16.21 9. | 80 10.32 | 26.5320.12 | 60.00 | 50.00 | 33.4729.88 | L |
| 15 | 13.01578 | | 88 10.41 | 28.99 20.29 | 60.00 | 50.00 | 31.0129.71 | L |
| 16 | 28.68521 | 11.52 7. | 33 10.70 | 22.2218.03 | 60.00 | 50.00 | 37.7831.97 | L |

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 3 & 802.11a & 5785 MHz

Results of Conducted Emission



AC Line Conducted Emissions (Data List)

Test Mode: U-NII 3 & 802.11a & 5785 MHz

Results of Conducted Emission

Date 2020-01-17

| Order No. | | Referrence No. | |
|----------------|-----------|----------------|--------------|
| Model No. | LM-V601V | Power Supply | 120 V, 60 Hz |
| Serial No. | | Temp/Humi. | 23 'C / 35 % |
| Test Condition | 5.7G WLAN | Operator | J. W. Kim |

Memo

DTNC

LIMIT : FCC P15.207 QP FCC P15.207 AV

| NC |) FREQ | READING QP CAV | C.FACTOR | RESULT QP CAV | LI QP | IMIT CAV | MARGIN QP CAV | PHASE |
|----|----------|-------------------|----------|------------------|----------|-------------|---------------------------|-------|
| | [MHz] | [dBuV] [dBuV |] [dB] | [dBuV] [dBuV |] [dBu\ | /] [dBuV |] [dBuV][dBu ^v | /] |
| 1 | 0.15652 | 35.60 22.07 | 9.94 | 45.54 32.01 | 65.65 | 55.65 | 20.1123.64 | N |
| 2 | 0.18525 | 33.7515.49 | 9.94 | 43.6925.43 | 64.25 | 54.25 | 20.5628.82 | Ν |
| 3 | 0.56542 | 16.82 4.26 | 9.95 | 26.7714.21 | 56.00 | 46.00 | 29.23 31.79 | Ν |
| 4 | 0.87970 | 7.53 2.25 | 9.97 | 17.50 12.22 | 56.00 | 46.00 | 38.50 33.78 | Ν |
| 5 | 1.46690 | 7.54 0.19 | 9.99 | 17.5310.18 | 56.00 | 46.00 | 38.47 35.82 | Ν |
| 6 | 3.14338 | 4.11 -1.10 | 10.07 | 14.18 8.97 | 56.00 | 46.00 | 41.8237.03 | Ν |
| 7 | 6.20058 | 6.32 2.33 | 10.20 | 16.52 12.53 | 60.00 | 50.00 | 43.4837.47 | Ν |
| 8 | 12.85742 | 13.52 7.53 | 10.43 | 23.9517.96 | 60.00 | 50.00 | 36.05 32.04 | Ν |
| 9 | 25.21681 | 15.20 8.21 | 10.66 | 25.8618.87 | 60.00 | 50.00 | 34.14 31.13 | Ν |
| 10 | 0.15607 | 35.50 23.44 | 9.94 | 45.44 33.38 | 65.67 | 55.67 | 20.23 22.29 | L |
| 11 | 0.21044 | 32.4213.81 | 9.94 | 42.3623.75 | 63.19 | 53.19 | 20.8329.44 | L |
| 12 | 0.57436 | 19.27 7.75 | 9.95 | 29.2217.70 | 56.00 | 46.00 | 26.7828.30 | L |
| 13 | 1.06005 | 13.17 3.47 | 9.97 | 23.14 13.44 | 56.00 | 46.00 | 32.8632.56 | L |
| 14 | 1.76234 | 11.37 3.25 | 10.02 | 21.39 13.27 | 56.00 | 46.00 | 34.61 32.73 | L |
| 15 | 5.93886 | 11.14 6.04 | 10.18 | 21.3216.23 | 60.00 | 50.00 | 38.6833.78 | L |
| 16 | 13.32496 | 18.54 9.28 | 10.42 | 28.9619.70 | 60.00 | 50.00 | 31.04 30.30 | L |
| 17 | 26.31440 | 12.62 6.16 | 10.65 | 23.27 16.81 | 60.00 | 50.00 | 36.7333.19 | L |

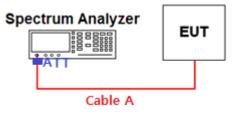
9. LIST OF TEST EQUIPMENT

| Туре | Manufacturer | Model | Cal.Date (yy/mm/dd) | Next.Cal.Date (yy/mm/dd) | S/N |
|--|---------------------------------------|---------------------------------|------------------------|-----------------------------|--------------------|
| Spectrum Analyzer | Agilent Technologies | N9020A | 19/12/18 | 20/12/18 | MY50410357 |
| Spectrum Analyzer | Agilent Technologies | N9020A | 19/12/16 | 20/12/16 | MY48011700 |
| Spectrum Analyzer | Agilent Technologies | N9020A | 19/12/19 | 20/12/19 | MY46471251 |
| Spectrum Analyzer | Agilent Technologies | N9030A | 19/03/15 | 20/03/15 | MY53310140 |
| DC Power Supply | Agilent Technologies | 66332A | 19/06/25 | 20/06/25 | MY43001173 |
| Multimeter | FLUKE | 17B | 19/12/16 | 20/12/16 | 26030065WS |
| Signal Generator | Rohde Schwarz | SMBV100A | 19/12/16 | 20/12/16 | 255571 |
| Signal Generator | ANRITSU | MG3695C | 19/12/16 | 20/12/16 | 173501 |
| Thermohygrometer | BODYCOM | BJ5478 | 19/12/18 | 20/12/18 | 120612-1 |
| Thermohygrometer | BODYCOM | BJ5478 | 19/12/18 | 20/12/18 | 120612-2 |
| Thermohygrometer | BODYCOM | BJ5478 | 19/07/03 | 20/07/03 | N/A |
| HYGROMETER | TESTO | 608-H1 | 19/01/31 | 20/01/31 | 34862883 |
| Loop Antenna | ETS-Lindgren | 6502 | 19/09/18 | 21/09/18 | 00226186 |
| BILOG ANTENNA | Schwarzbeck | VULB 9160 | 19/04/23 | 21/03/18 | 9160-3362 |
| Horn Antenna | ETS-Lindgren | 3115 | 19/01/11 | 21/01/11 | 9202-3820 |
| Horn Antenna | A.H.Systems Inc. | SAS-574 | 19/07/03 | 21/07/03 | 155 |
| | · · · · · · · · · · · · · · · · · · · | MLA-0118-B01-40 | 19/12/16 | 20/12/16 | 1852267 |
| PreAmplifier | tsj | | | 20/12/16 | |
| PreAmplifier | tsj | MLA-1840-J02-45 | 19/06/27 | | 16966-10728 |
| PreAmplifier | H.P | 8447D | 19/12/16 | 20/12/16 | 2944A07774 |
| Attenuator | Aeroflex/Weinschel | 20515 | 19/06/27 | 20/06/27 | Y2370 |
| Attenuator | SMAJK | SMAJK-2-3 | 19/06/27 | 20/06/27 | 2 |
| Attenuator | SRTechnology | F01-B0606-01 | 19/06/27 | 20/06/27 | 13092403 |
| Attenuator | Hefei Shunze | SS5T2.92-10-40 | 19/06/27 | 20/06/27 | 16012202 |
| Attenuator | SMAJK | SMAJK-50-10 | 19/08/07 | 20/08/07 | 15081901 |
| High Pass Filter | Wainwright Instruments | WHNX8.0/26.5-6SS | 19/06/27 | 20/06/27 | 3 |
| High Pass Filter | Wainwright Instruments | WHKX12-935-1000- 15000-40SS | 19/06/26 | 20/06/26 | 8 |
| High Pass Filter | Wainwright Instruments | WHKX10-2838- 3300-18000-60SS | 19/06/26 | 20/06/26 | 1 |
| Power Meter & Wide Bandwidth Sensor | Anritsu | ML2496A MA2411B | 19/12/16 | 20/12/16 | 1338004 1306053 |
| EMI Receiver | ROHDE&SCHWARZ | ESW44 | 19/07/30 | 20/07/30 | 101645 |
| | | 50017 | 19/01/30 | 20/01/30 | 400040 |
| EMI Test Receiver | Rohde Schwarz | ESCI7 | 20/01/20 | 21/01/20 | 100910 |
| PULSE LIMITER | Rohde Schwarz | ESH3-Z2 | 19/09/17 | 20/09/17 | 101333 |
| LISN | SCHWARZBECK | NNLK 8121 | 19/03/19 | 20/03/19 | 06183 |
| | | | 19/01/14 | 20/01/14 | |
| Cable | Junkosha | MWX241 | 20/01/13 | 21/01/13 | G-04 |
| | | | 19/01/14 | 20/01/14 | |
| Cable | Junkosha | MWX241 | 20/01/13 | 21/01/13 | G-07 |
| | | | 19/01/14 | 20/01/14 | |
| Cable | DT&C | Cable | 20/01/13 | 21/01/13 | G-13 |
| | | | | | |
| Cable | DT&C | Cable | 19/01/14 | 20/01/14 | G-14 |
| | | | 20/01/13 | 21/01/13 | |
| Cable | HUBER+SUHNER | SUCOFLEX 104 | 19/01/14 | 20/01/14 | G-15 |
| | | | 20/01/13 | 21/01/13 | |
| Cable | Radiall | TESTPRO3 | 19/01/16 | 20/01/16 | M-01 |
| | | | 20/01/16 | 21/01/16 | |
| Cable | Junkosha | MWX315 | 19/01/16 | 20/01/16 | M-05 |
| | | | 20/01/16 | 21/01/16 | |
| Cable | Junkosha | MWX221 | 19/01/16 | 20/01/16 | M-06 |
| | | | 20/01/16 | 21/01/16 | |
| Cable | DT&C | Cable | 19/01/16 | 20/01/16 | RF-82 |
| Casie | | Cable | 20/01/16 | 21/01/16 | 111 02 |

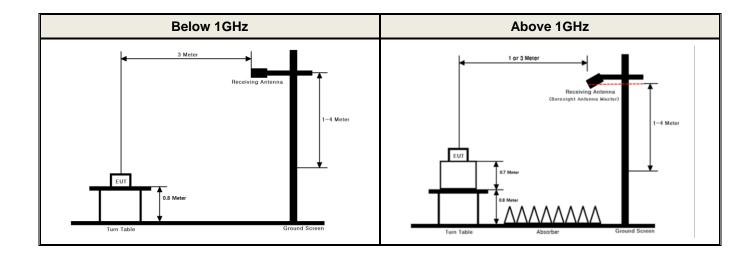
Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017 Note2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

APPENDIX I

- Test set up Diagram
- Conducted Measurement



Radiated Measurement





APPENDIX II

Duty Cycle Information

Test Procedure

Duty Cycle [X = On Time / (On + Off time)] is measured using Measurement Procedure of KDB789033 D02v02r01

- 1. Set the center frequency of the spectrum analyzer to the center frequency of the transmission.
- 2. Set RBW \geq EBW if possible; otherwise, set RBW to the largest available value.
- 3. Set VBW \geq RBW. Set detector = peak.
- 4. Note : The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where T is defined in section II.B.1.a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T ≤ 16.7 microseconds.)
 - T: The minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
 - (*T* = On time of the above table since the EUT operates with above fixed Duty Cycle and it is the minimum On time)

Test Results:

| Duty | cycle |
|------|-------|
| | |

| Mode | Data | Tested Frequency | | aximum Achievable Cycle (<i>x</i>) = On / (On | Duty Cycle Correction | 50/ <i>T</i> | |
|---------------------|-------|---------------------|-----------------|--|--------------------------|---------------------|-------|
| mode | Rate | [MHz] | On Time [ms] | (On+Off) Time [ms] | x | Factor [dB] | [kHz] |
| 802.11a | 6Mbps | 5180 | 2.050 | 2.090 | 0.9809 | 0.08 | 24.39 |
| 802.11n (HT20) | MCS0 | 5180 | 5.400 | 5.460 | 0.9890 | 0.05 | 9.26 |
| 802.11n (HT40) | MCS0 | 5190 | 5.408 | 5.458 | 0.9908 | 0.04 | 9.25 |
| 802.11ac (VHT80) | MCS0 | 5210 | 5.408 | 5.458 | 0.9908 | 0.04 | 9.25 |

FCC ID: ZNFV601V

Single Transmit

🛈 Dt&C

Test Mode: 802.11a & Ch.36 Frequency Avg Type: Log-Pwr req Offset 0 Hz PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 40 dB DET P P P P P Auto Tune ΔMkr3 2.090 ms 0.52 dE Ref 30.00 dBm **Center Freq** 5.18000000 GHz Start Freq 5.18000000 GHz Stop Freq 5.180000000 GHz Center 5.180000000 GHz Res BW 8 MHz Span 0 Hz Sweep 15.00 ms (3001 pts) CF Step 8.000000 MHz Man #VBW 8.0 MHz Auto FUNCTION FUNCTION FUNCTION VALUE (Δ) -0.03 dB 17.18 dBm 0.52 dB 17.18 dBm 2.090 ms (Δ) 800.0 μs 2.090 ms (Δ) 800.0 μs Freq Offset (Λ) 0 Hz STATUS

Duty Cycle

Duty Cycle

ALIGN OFF PNO: Fast ↔ Trig: Free Run IFGain:Low #Atten: 40 dB DET PPPPP Auto Tune ΔMkr3 5.460 ms 1.48 dE Ref 30.00 dBm dB/div **Center Freq** 5.18000000 GHz **Start Freq** 5.18000000 GHz **Stop Freq** 5.18000000 GHz CF Step 8.000000 MHz Man Center 5.180000000 GHz Res BW 8 MHz Span 0 Hz Sweep 30.00 ms (3001 pts) #VBW 8.0 MHz <u>Auto</u> FUNCTION FUNCTION WIDTH FUNCTION VALUE 5.400 ms (Δ) 530.0 μs 5.460 ms (Δ) 530.0 μs 1.46 dB 17.43 dBm 1.48 dB 17.43 dBm t (Δ) t t (Δ) Freq Offset 1 t 0 Hz STATUS

Test Mode: 802.11n HT20

& Ch.36



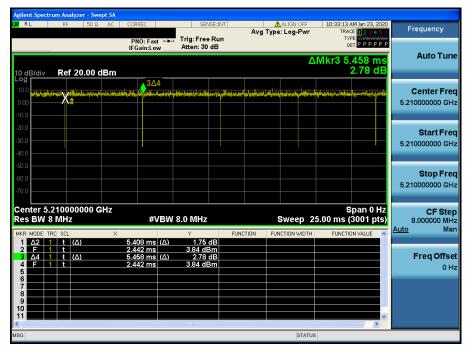
Duty Cycle

Test Mode: 802.11n HT40 & Ch.38

| Agilent Spectrum Analyzer - Swept SA | | | | | | | | | | | | | | | | | |
|--|--------------------|-----|-------------------|-------------------|----------------------------------|-------------------------|--------------------------|------------------|---|---------------|----------|-------------------------|--|------------------------------------|----------------------|-----------|--------------------------------------|
| L XI RL | RL RF 50Ω AC | | | CORREC | | | | - | ALIGN OFF Avg Type: Log-Pwr | | | TR | 10:34:15 AM Jan 23, 2020 TRACE 1 2 3 4 5 6 TYPE WWWWWW | | | Frequency | |
| 10 dE | 3/div | Ref | 20.00 | dBm | PNO: Fa IFGain:Lo | | Atten: 30 | | | | | Δ | Mkr3 (| DET P | PPPPP | | Auto Tune |
| Log 10.0 0.00 -10.0 | X | 2 | nie fan yn waarne | ng (Tiniya ang ji | 3∆4 | hur poster | alaan taa May Mari | e eneeli, | n fi an an air an an air an an air | al for le par | elesjop. | Myana Asland | antis prostation of | i i i me | ti af at a the state | | Center Freq 5.19000000 GHz |
| -20.0 -30.0 -40.0 | | | | | | | | | | | | | | | | | Start Freq 5.190000000 GHz |
| -50.0 -60.0 -70.0 | | | | | | | | | | | | | | | | | Stop Freq 5.190000000 GHz |
| Center 5.19000000 GHz Span 0 Hz Res BW 8 MHz #VBW 8.0 MHz Sweep 25.00 ms (3001 pts) | | | | | | | | | | | | | Δ | CF Step 8.000000 MHz uto Man | | | |
| | | | (A) | Х | 5.408 ms | (A) | Y 4.57 | dB | FUNC | CTION | FUNC | TION WIDTH | FUNC | FION VA | | ~ | |
| 2 3 4 5 | F 1 Δ4 1 F 1 | t | (Δ) | | 1.425 ms 5.458 ms 1.425 ms | s s (Δ) | 5.47 d 2.53 5.47 d | Bm dB | | | | | | | | | Freq Offset 0 Hz |
| 6 7 8 9 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | ш | | | | | | | | > | | |
| MSG | | | | | | | | | | | | STATUS | 5 | | | | |

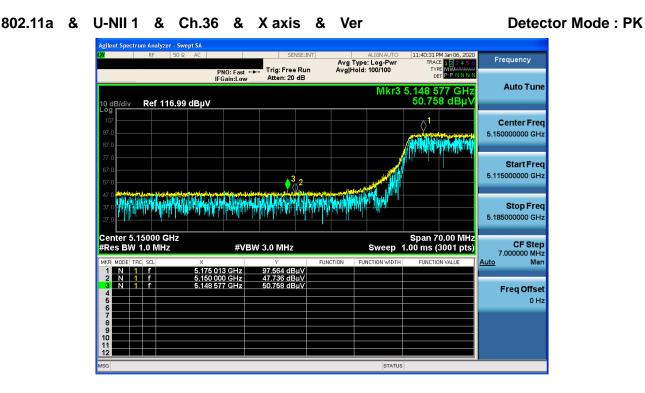
Duty Cycle

Test Mode: 802.11ac VHT80 & Ch.42

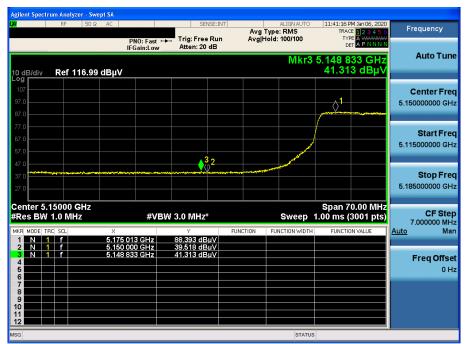


APPENDIX III

Unwanted Emissions (Radiated) Test Plot



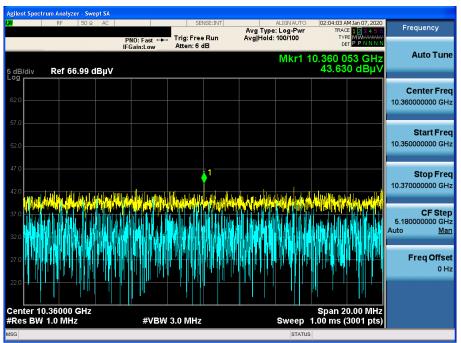
802.11a & U-NII 1 & Ch.36 & X axis & Ver



Detector Mode : PK

TDt&C

802.11a & U-NII 1 & Ch.36 & Yaxis & Ver



Detector Mode : PK



802.11a & U-NII 2A & Ch.64 & X axis & Ver



802.11a & U-NII 2A & Ch.64 & X axis & Ver

t Spectrum Analyzer - Swept SA





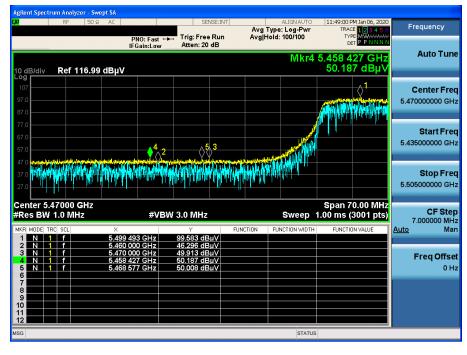
802.11a & U-NII 2A & Ch.60 & Z axis & Ver

| | RF | 50 Ω | AC | | SE | NSE:INT | | ALIGN AUTO | | M Jan 07, 2020 | Frequency |
|--------------|--|---|-----------------|------------------------|---|------------------|-------------------------------|--|------------------|---|--|
| | | | | NO: Fast ↔ Gain:Low | Trig: Free Atten: 6 d | | Avg Type Avg Hold: | | TYP | E 1 2 3 4 5 6 E A WWWWW T A P N N N N | Trequency |
| dB/div | Ref 66 | i.99 dB | μV | | | | | Mkr1 1 | 0.600 2 33.44 | 40 GHz 7 dBµV | Auto Tu |
| 52.0 | | | | | | | | | | | Center Fr 10.600000000 G |
| i7.0 i2.0 | | | | | | | | | | | Start Fr 10.590000000 G |
| 17.0 | | | | | | | | | | | Stop Fr 10.610000000 G |
| 17.0 | a an | and the state of the | olofi boli Mire | uleinettetenen it | http://www.com/shares/shares/shares/shares/shares/shares/shares/shares/shares/shares/shares/shares/shares/shares/ | <u>ф</u> 1 "м | Segtes give file of the state | the state of the s | ely-white the | héhini makén | CF St 5.30000000 G Auto <u>M</u> |
| 17.0 | | | | | | | | | | | Freq Offs 0 |
| | 0.60000 1.0 MH; | | | #\/B\4 | 3.0 MHz | k. | | Sween | Span 2 | 0.00 MHz 3001 pts) | |
| Res DW | T.O IVIN | | | #VDVV | 3.0 WIHZ | | | aweep | 1.00 IIIS (| soor prs) | |

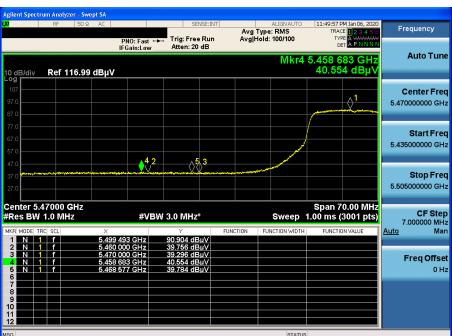
802.11a & U-NII 2C & Ch.100 & Z axis & Ver

Detector Mode : PK

Detector Mode : AV



802.11a & U-NII 2C & Ch.100 & Z axis & Ver



Detector Mode : AV

Dt&C

802.11a & U-NII 2C & Ch.120 & Yaxis & Ver

5 dB/div Log

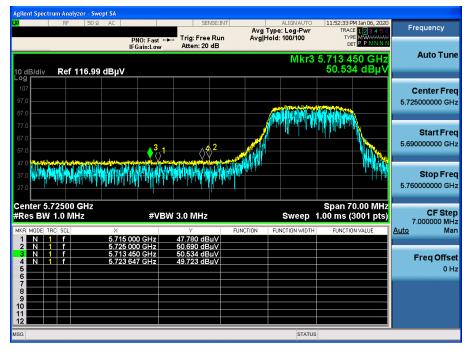
11:08:35 PM Jan 07, 2020 TRACE 1 2 3 4 5 TYPE A WWWW DET A P N N N SE:INT Frequency Avg Type: RMS Avg|Hold: 100/100 PNO: Fast +++ Trig: Free Run IFGain:Low Atten: 6 dB Mkr1 11.199 520 GHz 33.712 dBµV Auto Tune Ref 66.99 dBµV Center Freq 11.200000000 GHz Start Freq 11.19000000 GHz **Stop Freq** 11.210000000 GHz **CF Step** 5.60000000 GHz uto <u>Man</u> Auto **Freq Offset** 0 Hz Span 20.00 MHz Sweep 1.00 ms (3001 pts) Center 11.20000 GHz #Res BW 1.0 MHz

#VBW 3.0 MHz*

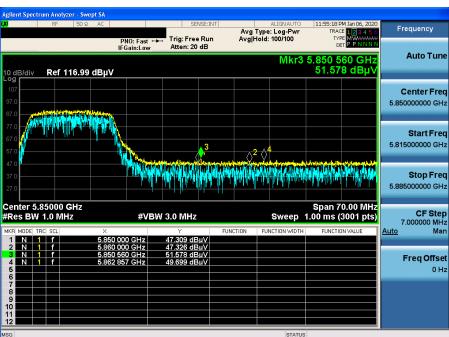
802.11a & U-NII 3 & Ch.149 & X axis & Ver

Detector Mode : PK

Detector Mode : PK



802.11a & U-NII 3 & Ch.165 & X axis & Ver

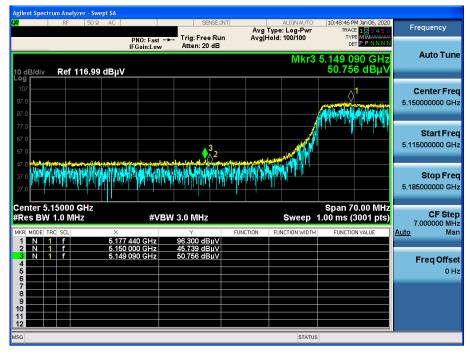


802.11a & U-NII 3 & Ch.165 & Yaxis & Ver

| <mark>u</mark> | RF 5 | 50 Ω AC | | SE | NSE:INT | Avg Type | ALIGN AUTO | | M Jan 07, 2020 | Frequency |
|-------------------|--------------------|-----------------------|--------------------------|--|-------------------------|--------------------|------------------|-------------------|------------------------------|----------------|
| | | | PNO: Fast 🕶 FGain:Low | Trig: Free Atten: 6 | | Avg Hold | | TYI | E A WARAWAY T A P N N N N | |
| dB/div | Ref 66.9 | 9 dBµV | | | | | Mkr1 | 11.651 5 33.69 | 47 GHz 1 dBµV | Auto Tu |
| | | | | | | | | | | Center Fr |
| 52.0 | | | | | | | | | | 11.650000000 G |
| 57.0 | | | | | | | | | | |
| 57.0 | | | | | | | | | | Start Fr |
| 52.0 | | | | | | | | | | 11.640000000 |
| 47.0 | | | | | | | | | | |
| 47.0 | | | | | | | | | | Stop Fr |
| 42.0 | | | | | | | | | | 11.660000000 G |
| | | | | | | | | | | CF St |
| 37.0 | | | | | | | | | | 5.825000000 |
| 32.0 444 4 | hannad Admilitions | all and be contracted | nder gewonder wie der | n an | the lite program in the | adar may had far a | rige and provide | north front and a | Human manya | Auto <u>N</u> |
| | | | | | | | | | | Freq Offs |
| 27.0 | | | | | | | | | | o Prequis |
| 22.0 | | | | | | | | | | |
| | | | | | | | | | | |
| | 1.65000 GI | Hz | | | | | | Span 2 | 0.00 MHz | |
| | (1.0 MHz | | #\/D\/ | V 3.0 MHz | * | | Sween | 1.00 ms (| 2004 ptc) | |

802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Ver

Detector Mode : PK



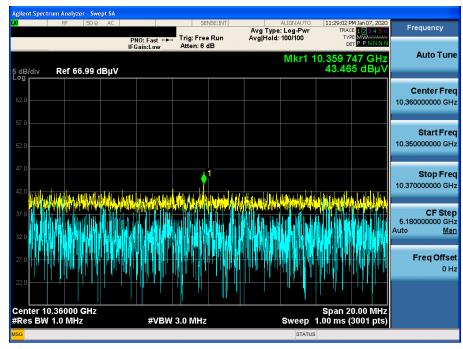
802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Ver





802.11n(HT20) & U-NII 1 & Ch.36 & Yaxis & Ver

Detector Mode : PK





802.11n(HT20) & U-NII 2A & Ch.64 & X axis & Ver

Detector Mode : PK



802.11n(HT20) & U-NII 2A & Ch.64 & X axis & Ver Detector Mode : AV

